PURDUE UNIVERSITY **Libraries** *Access. Knowledge. Success.*

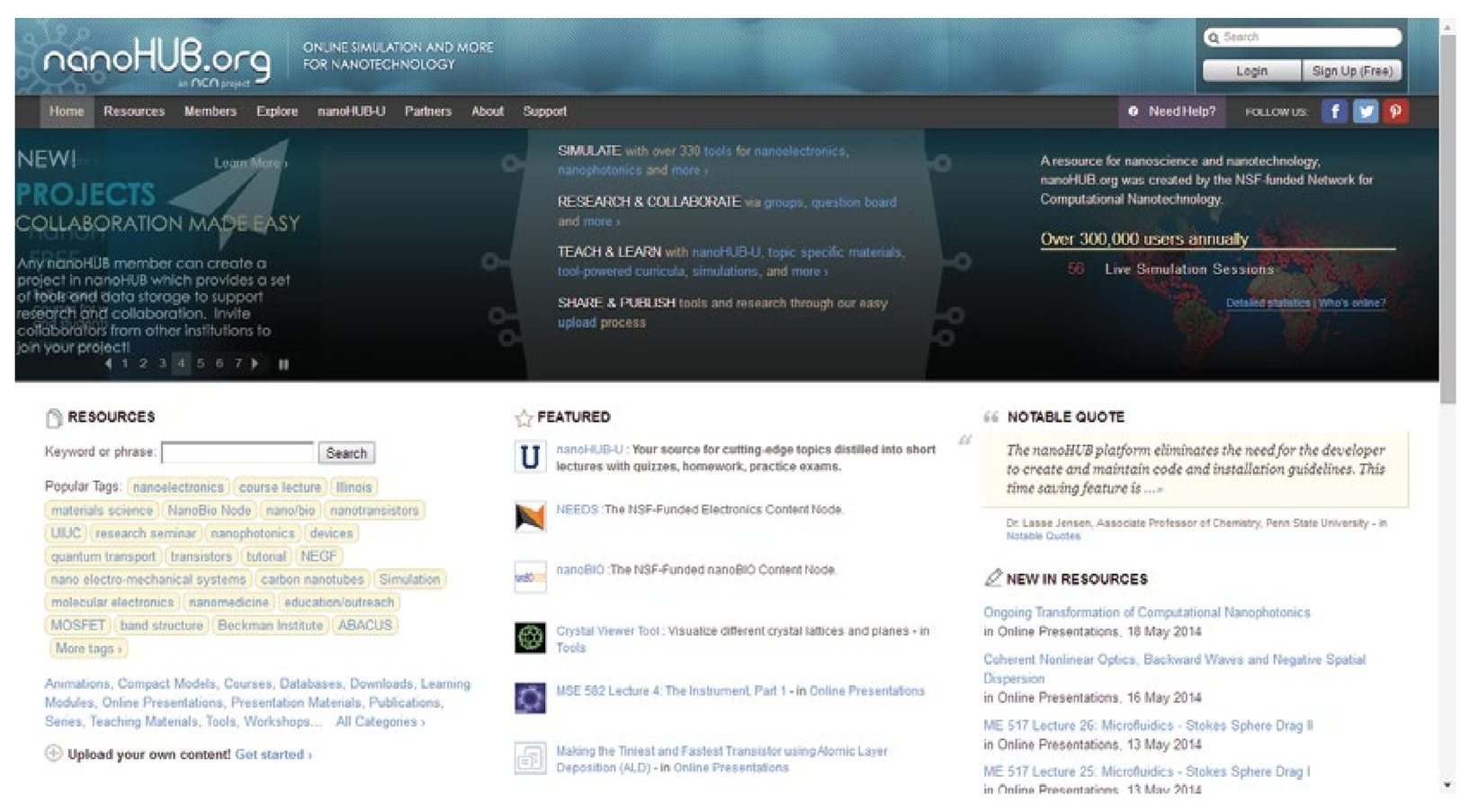
HUBzero

PURR is an instance of HUBzero (http://hubzero.org), an open source software platform developed at Purdue University, that has grown to include over 50 "hubs" that serve a wide variety of virtual research communities that reach a global audience. HUBzero provides a web-based platform for supporting research collaboration, including an environment for software tool development and execution, integration with grid resources, research data lifecycle management, open educational resources, and other features that enable collaborative user interaction with content.

Features

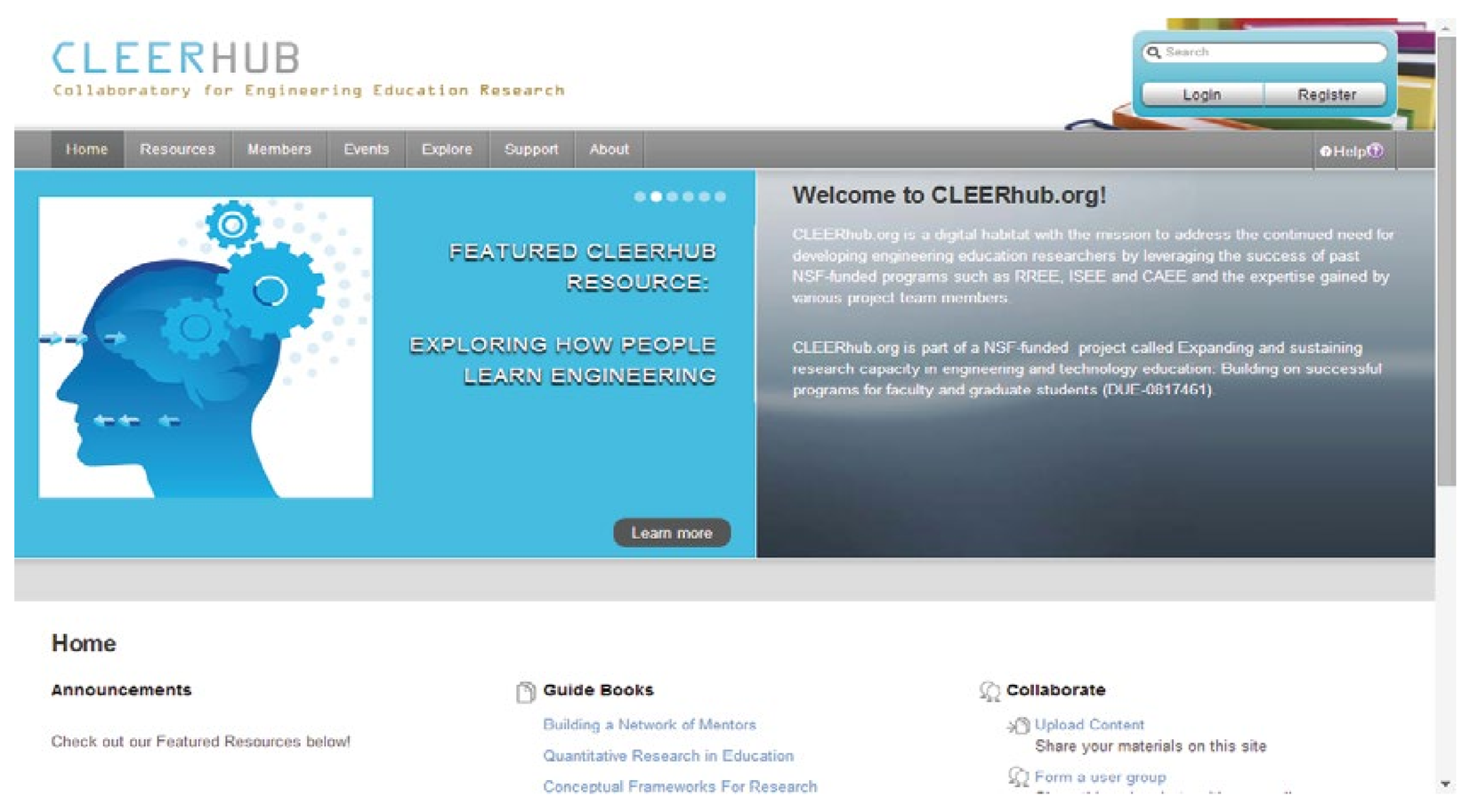
- Private project areas with collaboration features (calendar, to-do list, wiki, updates) to share documents with team members
- git file sharing and versioning
- Virtual machine and computation environment (front end for grid/clusters)
- Execute software and tools online
- Deploy simulation/modeling and analysis tools that run in the cloud
- Online courses and seminars through the built-in MOOC learning management system
- Publish citable digital assets out of projects, with Datacite DOIs
- Datacite DOI maintains a permanent and resolvable identifier
- ORCID integration for user identification & profile
- Google Drive Sync allows file backup and transfer
- OAI-PMH for metadata harvesting
- Linked Data (RDFa) for semantic web integration
- Impact tracking of citations and content usage

Examples of HUBs

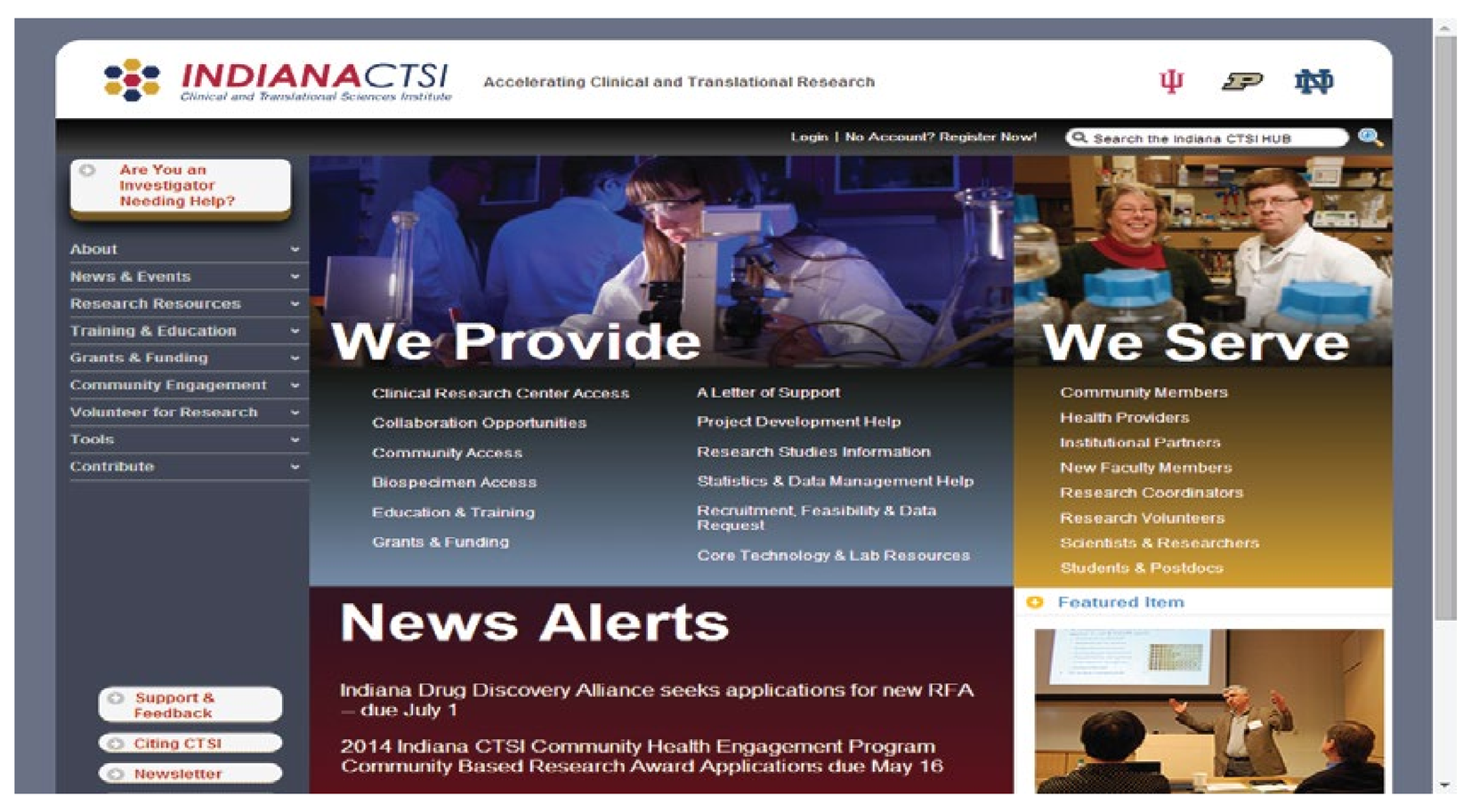


Nanohub.org – Online simulation for nanotechnology

NEES.org – Network for Earthquake Engineering Simulation



Cleerhub.org – Collaboratory for Engineering Education Research



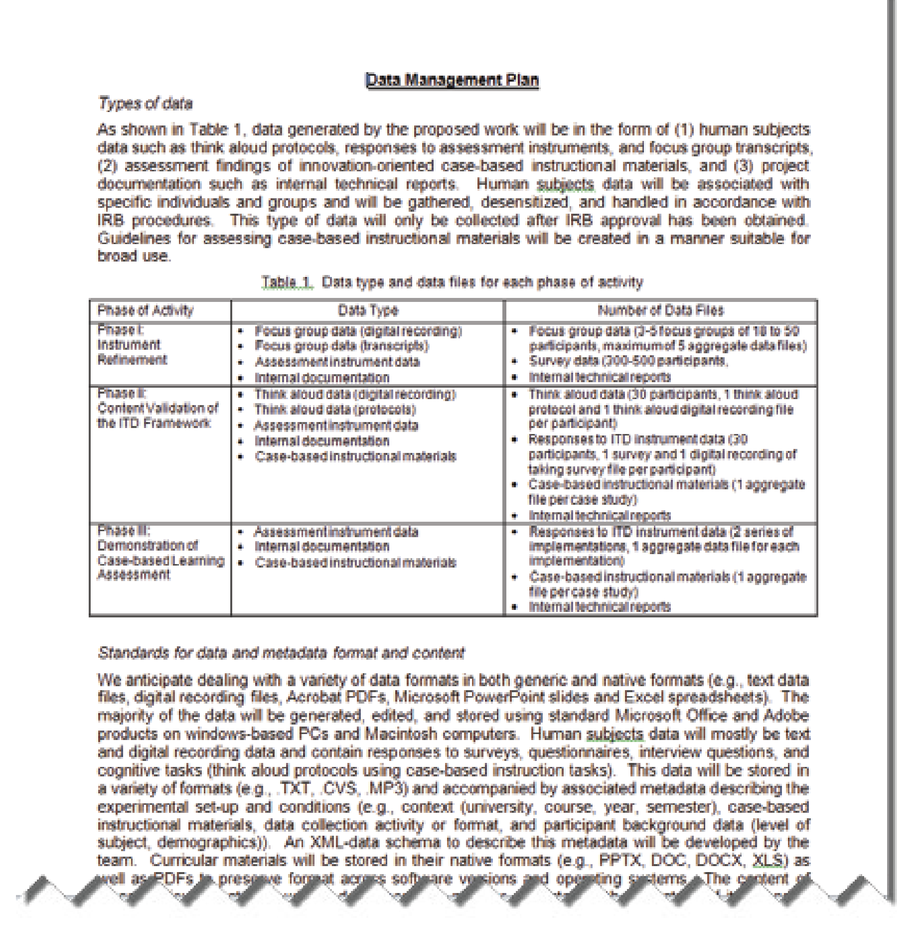
IndianaCSTI.org – Accelerating clinical and translational research in healthcare

PURR

The Purdue University Research Repository (PURR, http://purr.purdue.edu) uses HUBzero to provide a online research data collaboration platform and data management service platform for Purdue researchers and their collaborators. PURR supports the entire research data lifecycle providing data management planning resources to meet federal funder & government directives, a private collaborative space for project work, a workflow for publishing datasets that can be cited using Digital Object Identifiers (DOI) and dataset archiving for long-term preservation.

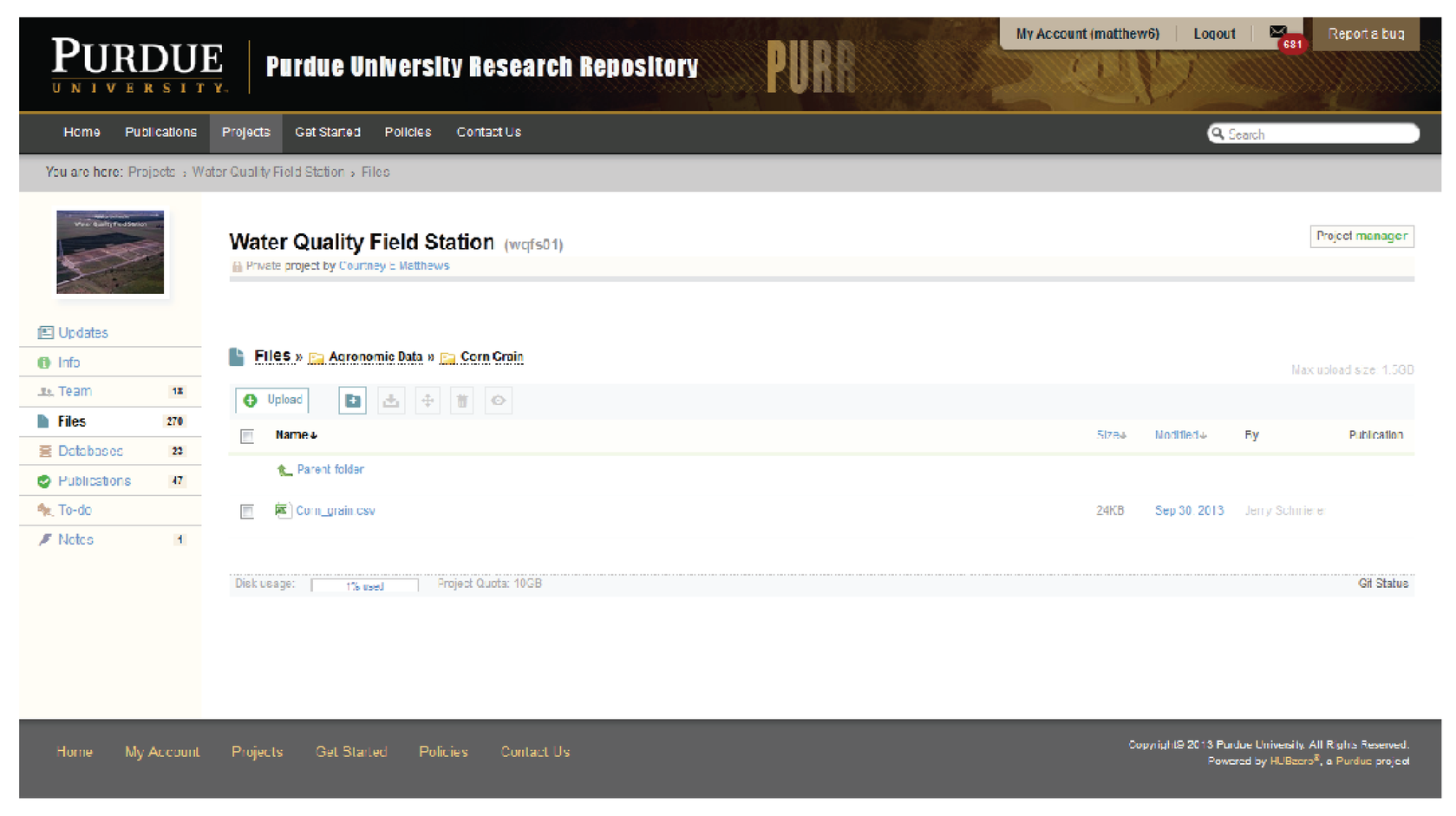
1. Plan

MEET FUNDING AGENCY REQUIREMENTS
By using PURR's boilerplate text in their data management plans, Purdue researchers are able to meet the requirements of funding agencies and government directives.



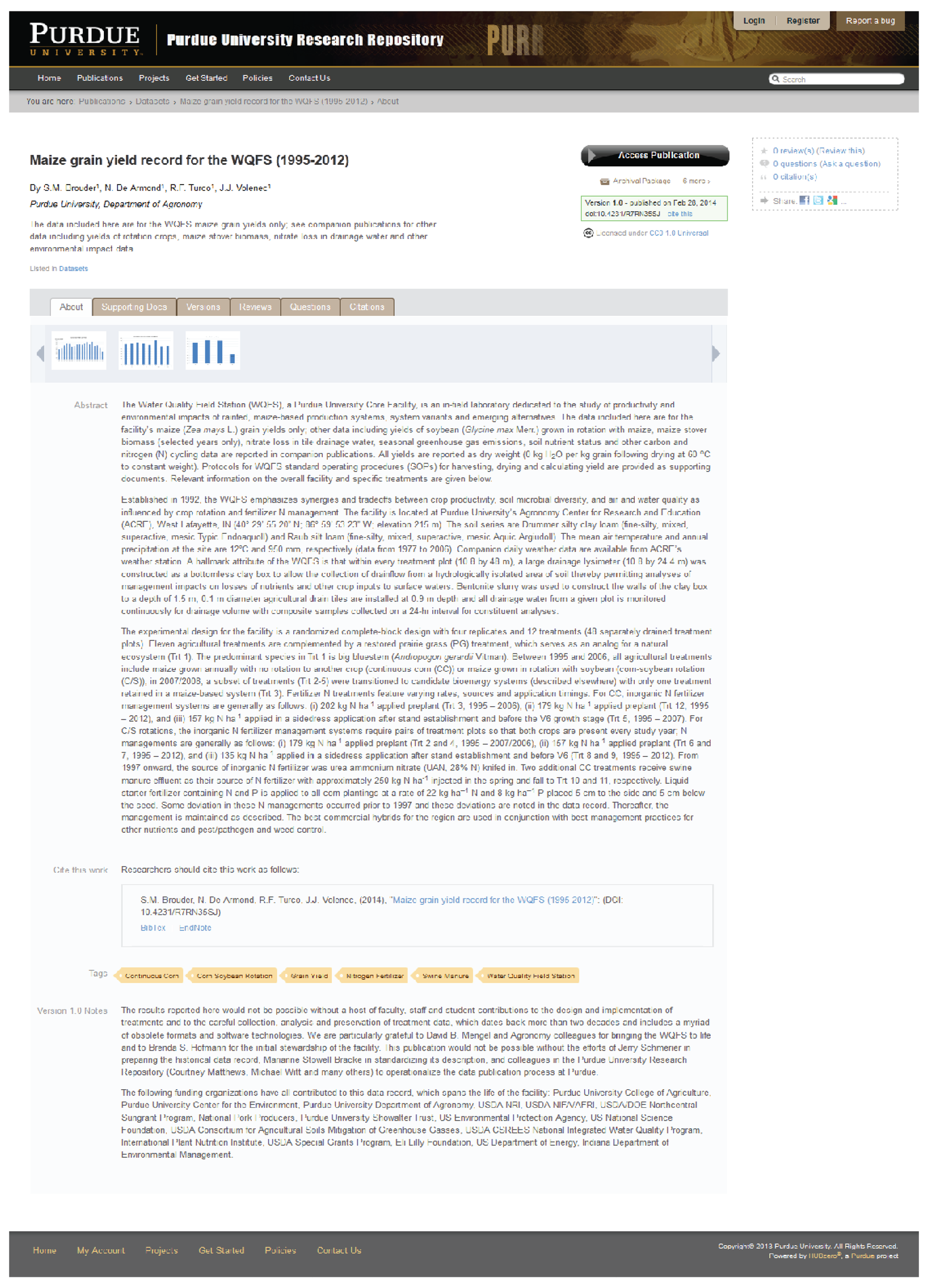
2. Collaborate

UPLOAD FILES AND COLLABORATE
Purdue researchers are able to create accounts, invite collaborators from other institutions, and use a collaborative project space to upload and manage their data with file versioning and other features.



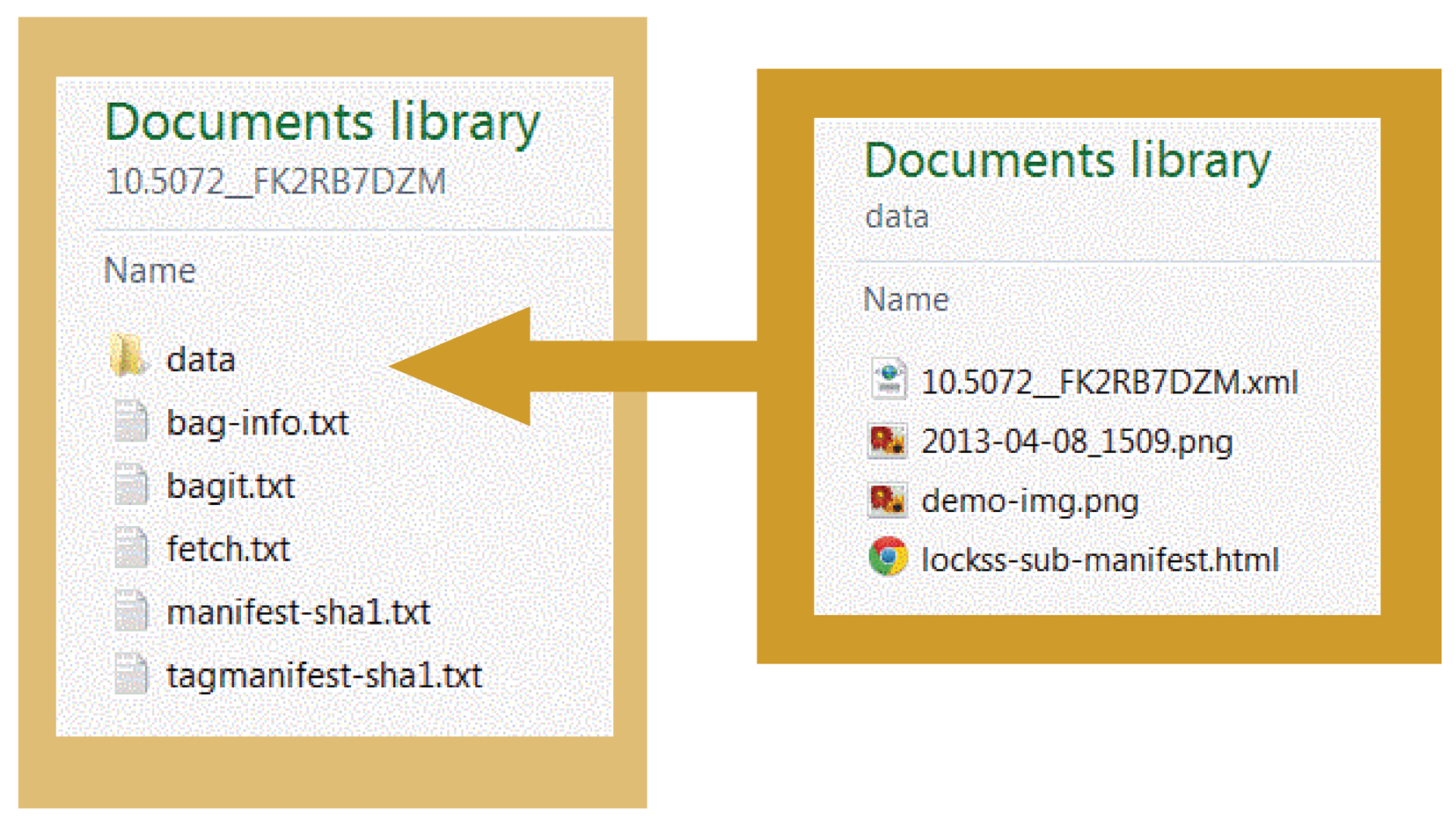
3. Publish

SELECT, DESCRIBE, PUBLISH
Using the PURR publication wizard researchers can select, describe, and publish datasets with Datacite Digitial Object Identifiers (DOIs) to make them openly accessible for discovery and use.



4. Archive

PRESERVE & STEWARD DATASETS
PURR uses Bagit to bundle datasets with descriptive, rights, and preservation metadata. BagIt is a hierarchical packaging format developed by the Library of Congress and the California Digital Library.



PRESERVATION NETWORK
Purdue University Libraries is a member of the MetaArchive Cooperative. Utilizing the LOCKSS (lots of copies keeps stuff safe) software developed by Stanford University Libraries, MetaArchive is a federated network of peer institutions which employs redundant replication and geographical distribution for optimal preservation. The mkAIP code integrates PURR's content with MetaArchive.

PURR Purdue University Research Repository http://purr.purdue.edu

The Purdue University Research Repository (PURR): An institutional data management service with a virtual research environment, data publication, and archiving

Courtney Matthews & Michael Witt, Purdue University, West Lafayette, Indiana, USA